

**ENGINEERING EVALUATION
HIGH QUALITY CUSTOM CABINETRY, INC.; PLANT # 14510
APPLICATION # 6658**

I. BACKGROUND

High Quality Custom Cabinetry, Inc. (HQCC) relocated to 437 Hurlingame Avenue in Redwood City. HQCC manufactures custom wood and laminate cabinets and furniture. The application of the coatings takes place in source 1, a spray booth.

II. EMISSION CALCULATIONS SUMMARY

Emissions for this application are assigned and not calculated (and will be enforceable by permit conditions). I recommend that the applicant be given a simple material usage limit and an optional more complicated emission based limit based on solvent contained in the material.

For the simple material usage limit, I recommend that the applicant be permitted a combined net usage of:

500 gallons in any consecutive 12-month period of as-applied coatings containing any POC (including but not limited to undercoats, stains, lacquer, varnish, topcoats, adhesives) plus clean-up solvents containing any POC and

500 gallons in any consecutive 12-month period of as-applied coatings containing any NPOC (including but not limited to undercoats, stains, lacquer, varnish, topcoats, adhesives) plus clean-up solvents containing any NPOC

If this material was 100% volatile, it could potentially result in 3,680 pounds of POC and 3,680 pounds of NPOC emissions in any consecutive 12-month period at 7.36 pounds of POC/NPOC per gallon of material.

For the more complicated emission based limit, I recommend that the applicant be allowed to use more material if it documents all of the following through record keeping:

- Combined net usage of precursor organic compounds is less than 3,900 pounds in any consecutive 12-month period
- Combined net usage of non-precursor organic compounds is less than 3,900 pounds in any consecutive 12-month period
- Combined net usage of precursor organic compounds plus non-precursor organic compounds is less than 1,000 gallons in any consecutive 12-month period

The one thousand gallon combined solvent limit is needed since the District charges higher initial and permit to operate fees than paid by the applicant for sources that are permitted to use 1,000 gallons or more of solvent per year. The precursor organic compound emission limit of less than 3,900 pounds in any consecutive 12-month period was selected since the

lowest TAC trigger limit for the proposed coatings and solvents is 3,900 pounds per year. See Section VI C, Toxic Risk Assessment, below for more clarification.

As recommended, the applicant can emit 10 or more pounds of POC and NPOC per highest day. Preliminary POC and NPOC calculations were made using the applicant's projected material usage and the recommended proposed permitted level is higher.

III. EXEMPT OPERATIONS

The applicant did not identify any exempt from permit operations but this industry commonly performs wood working which is exempt from permits by Regulation 2-1-121, Exemption, Material Working and Handling Equipment, Subsection 121.1.

IV. LIST OF SOURCES

The following source requires a Permit to Operate from the District in accordance with Regulations 2-1-301 and 2-1-302:

S-1: Spray Booth, Viking, 8' high by 9.5' wide by 7' deep

V. CUMULATIVE EMISSION INCREASES

POC = 3,900 lb/yr = 1.950 tpy
NPOC = 3,900 lb/yr = 1.950 tpy

VI. APPLICABLE REQUIREMENTS

A. 40 CFR60, Subpart EE, Standards of Performance for Surface Coating of Metal Furniture

Since HQCC will not apply an organic based coating on metal parts, HQCC is not subject to 40 CFR60, Subpart EE, Standards of Performance for Surface Coating of Metal Furniture.

B. 40CFR63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations

Custom cabinet manufacturing falls under SIC 5712, which makes it a wood furniture manufacturing operation. All Wood Furniture Manufacturing Operations are subject to 40CFR63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations. As listed in the next section, HQCC's coatings contain glycol ethers, n-hexane, toluene and xylene, which are all HAPs (plus isopropyl alcohol and methyl ethyl ketone which are not HAPs but are TACs). As permitted, the total emission of these four HAPs is less than 3,900 pounds per year. Therefore, HQCC will comply with 40CFR63.800(b)(3) by

emitting less than 4.5 Mg (5 tons) of any one HAP per rolling 12-month period and emitting less than 11.4 Mg (12.5 tons) of any combination of HAP per rolling 12-month period. Since the relevant HAPs are POCs or NPOCs, record keeping to demonstrate that the emissions of POCs and NPOCs are each less than 1.950 tons per year demonstrates both compliance with the one HAP limit and the combination HAP limit. HQCC is not subject to any additional provisions of Subpart JJ.

C. Toxic Risk Assessment

The sources covered by this application will comply with District's Toxic Risk Management Policy by emitting toxic compounds in quantities less than the risk screen trigger levels listed in Table 2-1-316. A review of the MSDS sheets provided by the applicant indicates the presence of six TACs: glycol ethers, n-hexane, isopropyl alcohol, methyl ethyl ketone, toluene and xylene. Of these compounds, glycol ethers have the lowest risk screen trigger level listed in Table 2-1-316 and it is 3,900 pounds per year. By limiting POC emissions to less than 3,900 pounds in any consecutive 12-month period, emissions of these 6 TACs will each be less than their respective risk screen trigger level. Therefore, a toxic risk screen was not required and TBACT does not apply.

D. New Source Review - Regulation 2, Rule 2

1. Best Available Control Technology Requirements (2-2-301)

A Best Available Control Technology (BACT) review is required for any new source that emits 10 or more pounds of POC or NPOC per day. At the recommended permitted level, the applicant triggers BACT for both POC and NPOC.

A detailed BACT review was prepared in January 2002 for Application Number 3345 for a new wood furniture coating operation in Oakland for Metropolitan Furniture. Abatement of POC and NPOC was not required for that applicant. Since the recommended permitted emissions for this permit application are less, 1.950 tpy for POC and 1.950 tpy for NPOC, abatement is presumed to also not be cost effective for this smaller facility. Hence, the applicant complies with BACT.

2. Offset Requirements (2-2-302)

Offset credits must be provided for any new or modified source of POC or NO_x emissions at facilities that emit more than 15 tons per year of these pollutants. Total facility emissions will be less than 15 tons/year of POC so offsets are not required.

3. PSD Requirements (2-2-304)

Wood Products Coating is not one of the 28 PSD source categories listed in Section 169(1) of the Federal Clean Air Act. Therefore, PSD (Prevention of Significant Deterioration) will not apply unless the facility has emissions of 250 tons/year or more of a regulated air pollutant. This facility will emit less than 250 tons/year of pollutants; therefore, PSD does not apply.

E. District Regulation 8, Rule 32: Wood Products Coating

Check each applicable Regulation 8-32 Exemption

- Section 8-32-111, Exemption, Small Coating Operations
 - Section 8-32-112, Exemption, Specific Operations
 - Section 8-32-113, Exemption, Refinishing, Replacement and Custom Replica Furniture Operations
 - Section 8-32-114, Exemption, Stencil Coatings
 - Section 8-32-115, Exemption, Specific Finishes
 - Section 8-32-116, Exemption, Musical Instruments
 - Section 8-32-117, Exemption, Polyester Resin Application
 - Section 8-32-118, Exemption, Patternmaking
 - Section 8-32-119, Limited Exemption, Extreme Environmental Conditions.
 - Section 8-32-120, Recordkeeping Exemption, Low VOC Facilities
- (Note: No Regulation 8-32 exemption is applicable.)

Check compliance for each applicable standard section of Regulation 8-32.

- ✓ Section 8-32-301, Spray Application Equipment Limitations
- ✓ Section 8-32-302, 303, 304, 307, Coating VOC limits
- ✓ Section 8-32-305, Prohibition of Specification
- ✓ Section 8-32-306, Compliance Statement Requirement
- ✓ Section 8-32-320, Solvent Evaporative Loss Minimization

The sources of this application will comply with all of the applicable standards and recordkeeping requirements contained in District Regulation 8, Rule 32.

F. District Regulation 8, Rule 51: Adhesive and Sealant Products

Check each applicable Regulation 8-32 Exemption

- Section 8-51-111, Exemption, Aerosol Adhesive Spray Products
- Section 8-51-112, Exemption, Aerospace and Undersea-based Weapons Systems Components
- Section 8-51-113, Exemption, Consumer Adhesives
- Section 8-51-114, Exemption, Low Usage
- Section 8-51-115, Exemption, Low VOC Adhesive or Sealant Products
- Section 8-51-116, Exemption, Medical Equipment Manufacturing
- Section 8-51-117, Exemption, Research and Development Operations
- Section 8-51-118, Exemption, Specific Operations
- Section 8-51-119, Exemption, Tire Repair
- Section 8-51-120, Exemption, Prohibition of Sale
- Section 8-51-121, Exemption, ABS, CPCV, PVC, and Plastic Welding Cement Primers
- Section 8-51-123, Limited Exemption, Small Containers
- Section 8-51-124, Limited Exemption, Consumer Contact Bond Adhesive

- Section 8-51-125, Limited Exemption, Low Usage of Contact Bond Adhesive
- ✓ Section 8-51-126, Limited Exemption, Facilities Using Contact Bond Adhesive Primarily for Special Substrates
- Section 8-51-127, Exemption, Large Tire Retreading
- Section 8-51-128, Exemption, Self Curing Adhesives and Sealants With Reactive Diluents

Check compliance for each applicable standard section of Regulation 8-51.

- ✓ Section 8-51-301, 302, and 304, Adhesive and Sealant VOC Limits
- ✓ Section 8-51-306, Prohibition of Specifications
- ✓ Section 8-51-307, Prohibition of Sale
- ✓ Section 8-51-320, Solvent Evaporative Loss Minimization

The sources of this application will comply with all of the applicable standards and recordkeeping requirements contained in District Regulation 8, Rule 51.

G. CEQA

This application does not trigger CEQA because it is ministerially exempt. It has been evaluated in accordance with the fixed standards and objective measurements set forth in the Permit Handbook chapter 5.12.

H. School Notification

The project is less than 1000 feet from the nearest school, Community Day School and Opportunity School and is therefore subject to the public notification requirements of Regulation 2-1-412. A public notice was mailed on TO BE DETERMINED. SUMMARY OF COMMENTS RECEIVED AND RESPONSES TO BE DETERMINED.

VII. PERMIT CONDITIONS

S-1: Spray Booth, Viking, 8' high by 9.5' wide by 7' deep

1. The owner/operator shall not use at S-1 more than:
 - a. a total combined 500 gallons net usage in any consecutive twelve-month period of coating containing any POC (including but not limited to undercoats, stains, lacquer, varnish, topcoats, adhesives) and cleanup solvent containing any POC.
 - b. a total combined 500 gallons net usage in any consecutive twelve-month period of coating containing any NPOC (including but not limited to undercoats, stains, lacquer, varnish, topcoats, adhesives) and cleanup solvent containing any NPOC.
 (basis: Cumulative Increase)

2. The owner/operator shall not cause the emission of any toxic air contaminant on a facility-wide basis above any risk screening trigger level.
(basis: Risk Management Policy)
3. The owner/operator may use more material at S-1 than specified in Condition 1, provided that the owner/operator can demonstrate that all of the following are satisfied:
 - a. Total POC emissions from S-1 are less than 3,900 pounds in any consecutive twelve-month period; and
 - b. Total NPOC emissions from S-1 are less than 3,900 pounds in any consecutive twelve-month period; and
 - c. Total net amount of organic solvent processed through S-1 including solvent used for cleaning is less than 1,000 gallons in any consecutive twelve-month period.
(basis: Cumulative Increase, Risk Management Policy)
4. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information:
 - a. Type and monthly net usage of all POC and NPOC containing materials used;
 - b. Toxic air contaminant (TAC) contents of each material used and mass emission calculations to demonstrate compliance with Condition 2 on a monthly basis for each TAC with a risk screen trigger level less than 3,900 pounds per year.
 - c. If more material than specified in Condition 1 is used, POC and NPOC contents of each material used; and mass emission calculations to demonstrate compliance with Condition 3 on a monthly basis;
 - d. Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period.

The owner/operator shall retain all records on-site for two years, from the date of entry, and make the records available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Risk Management Policy, Cumulative Increase, Regulations 8-32-501 and 8-51-501)

VIII. RECOMMENDATION

I recommend that an Authority to Construct be issued to High Quality Custom Cabinetry, Inc. for the following:

S-1: Spray Booth, Viking, 8' high by 9.5' wide by 7' deep

By: _____
Donald P. Van Buren, P.E.

Date: